

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A home link setting method by a home gateway device having a home agent function for accommodating terminals including a first mobile terminal, the home gateway device being connected to communication links, the method comprising:

a step of transmitting, by the home gateway device, a solicitation message requesting network information for setting a home network to all of the communication links;

a step of receiving, by the home gateway device, an advertisement message including the network information for setting a home network through a communication interface connected to an Internet network, the network information including home link information stored in the mobile terminal identifying a communication interface used by the mobile terminal as a mobile link for a mobile device;

a home link selecting step of selecting, by the home gateway device, a home link from among the communication links connecting to communication interfaces other than the than a communication link interface which has received the network information; and

a home agent setting step of executing, by the home gateway device, an internal setting so as cause to conduct a home agent function with respect to mobile the terminal terminals on the selected home link to conduct the home agent function;

wherein the home link selecting step includes choosing one of the communication interfaces corresponding to the mobile terminal, as the home link.

2. (Currently Amended) The home link setting method according to claim 1,

wherein in said home link selecting step, a respective communication link to which the first mobile terminal complying with a mobile IP protocol is connected is designated as the home link.

3. (Currently Amended) The home link setting method according to claim 2, wherein the first mobile terminal is connected to the respective communication link connecting to ~~the~~ a communication interface,

wherein in said home agent setting step, ~~when the~~ when home agent information meets conditions specified by the network information, the internal setting is executed using acquired home agent information, whereas when the home agent information does not meet the conditions, the internal setting is executed using home agent information generated based on the network information.

4. (Currently Amended) The home link setting method according to claim 3,

wherein in said home agent setting step, when the internal setting is executed using the home agent information which is newly generated, a notification of the newly generated home agent information is given to all of the mobile terminals on the home link.

5. (Currently Amended) The home link setting method according to claim 3, further comprising:

a step of acquiring information concerning a mobile router function stored in the first mobile terminal,

wherein when the first mobile terminal performs a mobile router operation, a setting ~~of the~~ of a home agent corresponding to the mobile router is executed.

6. (Currently Amended) A home gateway device, device having a home agent function for accommodating terminals including a first mobile terminal, comprising:

plural communication links ~~interfaces~~ connected to an Internet network or a local link;

a network information processing unit transmitting a solicitation message requesting network information for setting a home network to all of the plural communication links and receiving an advertisement message including the network information for setting a home network through said communication interfaces, the network information including home link information stored in the mobile terminal identifying a communication interface used by the mobile terminal as a mobile link for a mobile device;

an interface setting unit selecting a home link from among the communication one of the links connecting to communication interfaces other than the than a communication interfacelink which has received the network information to be a home link;

a home agent processing unit performing a home agent function with respect to mobile terminals on the home link; and

a home agent setting unit executing settings in said home agent processing unit so as to cause conduct the home agent function with respect to the mobile terminal terminals on the mobile link designated as the home link by said interface setting unit to conduct the home agent function, wherein the interface setting unit chooses one of the communication interfaces corresponding to the mobile terminal, as the home link.

7. (Currently Amended) The home gateway device according to claim 6,

wherein said interface setting unit transmits a verification message for verifying the existence an existence of the first mobile terminal complying with a mobile IP, and designates the respective communication link connecting to the communication interface which has received a message responding to the verification message notifying the existence of the first mobile terminal, as the home link.

8. (Currently Amended) The home gateway device according to claim 7,

wherein said interface setting unit acquires home agent information stored in one of the mobile terminal terminals connected to the home link, and

wherein when the home agent information meets conditions specified by the network information, said home agent setting unit performs a setting of the home agent function using the acquired home agent information, whereas when the home agent information does not meet the conditions, said interface setting unit generates home agent information based on the network information and said home agent setting unit performs a setting of said home agent processing unit using the generated home agent information.

9. (Currently Amended) The home gateway device according to claim 8,

wherein when said interface setting unit newly generates the home agent information, said home agent setting unit notifies all of the terminals on the home link of the new home agent information.

10. (Currently Amended) The home gateway device according to claim 8,

wherein said interface setting unit further acquires information concerning a mobile router function stored in the first mobile terminal, and

wherein when the first mobile terminal performs a mobile router operation, said home agent setting unit executes a setting corresponding to the mobile router in said home agent processing unit.

11. (Cancelled)

12. (Currently Amended) A mobile terminal, comprising:

a mobile IP processing unit supporting a mobile IP protocol and receiving a verification message for ~~verifying the~~verifying an existence of the mobile terminal connected on a link;

a home agent information response unit generating a response message in which ~~stored including~~ home agent information is ~~written~~indicative of a location of a home agent stored in the mobile terminal upon receipt of notification of receipt of the verification message from said mobile IP processing unit,

wherein said mobile IP processing unit of the mobile terminal transmits the response message ~~to the~~ a transmission source device which transmitted the verification message, said mobile IP processing unit further ~~transmits~~ transmits ~~another~~ response message in which the state of its mobile router processing is written.

13. (Original) The mobile terminal according to claim 12,

wherein when said mobile IP processing unit does not support the mobile IP protocol, said home agent information processing unit does not transmit the response message even if the mobile terminal receives the notification of receipt of the verification message from said mobile IP processing unit.

14. (Original) The mobile terminal according to claim 12,

wherein said mobile IP processing unit transmits the response message only when the mobile terminal is connected to a home agent.

15. (Currently Amended) The home link setting method according to claim 4, further comprising:

a step of acquiring information concerning a mobile router function stored in the first mobile terminal,

wherein when the first mobile terminal performs a mobile router operation, a setting of the home agent corresponding to the mobile router is executed.

16. (Currently Amended) The home gateway device according to claim 9,

wherein said interface setting unit further acquires information concerning a mobile router function stored in the first mobile terminal, and

wherein when the mobile terminal performs a mobile router operation, said home agent setting unit executes a setting corresponding to the mobile router in said home agent processing unit.

17. (Currently Amended) A home link setting method by a home gateway device having a home agent function for accommodating terminals including a first mobile terminal, comprising:

transmitting, by the home gateway device, a solicitation message requesting network information for setting a home network to all communication links;

receiving, by the home gateway device, an advertisement message including the network information for setting a ~~home~~the home network through a communication ~~interface~~link connected to an Internet network;

selecting, by the home gateway device, a home link from among the communication links ~~connecting to communication interfaces other than the communication interface~~link which has received the network information; and

executing a setting for conducting a home agent function with respect to mobile terminals on the home link~~causing one of the terminals on the selected link to conduct the home agent function,~~

selecting, by the home gateway device, one of: (1) a first mode of operation in which the ~~terminal~~mobile terminals on the selected home link uses home agent information stored in the first mobile terminal for conducting the home agent function or (2) a second mode of operation in which the ~~terminal~~mobile terminals on the selected home link uses other home agent information for conducting the home agent function, the other home agent information being based on the received network information,

wherein ~~the home agent setting step of the step of~~ executing the internet setting causes the ~~terminal~~mobile terminals on the selected home link to conduct the home agent function in accordance with the selected first or second mode of operation.